

*Moutabea* is partly due to the boat-shaped lower petal and the zygomorphic androecium. The subzygomorphy in *Barnhartia* is determined by the absence of two or three stamens and to the (very weak) union of four petals in two pairs. Gleason (1926) points out that the slight connation of the paired petals is facilitated by their approximation on the margin of the hypanthium away from a normal position alternate with the sepals; thus one might conclude that a slight zygomorphy is also found in this shifting of the petals.

The petals in *Eriandra*, *Moutabea*, and *Diclidanthera* are united into a tube and are free in the apical parts only, but in *Barnhartia* the five petals are free, four of them cohering in two pairs. In *Moutabea*, however, the tube is deeply incised at the dorsal side.

In *Eriandra*, *Diclidanthera*, and *Moutabea* the eight or ten stamens are united into a single column which is united with the corolla, but in *Barnhartia* the seven or eight stamens are inserted on the petals but never united into a tube. In *Moutabea* this tube is open at the dorsal side.

In the four genera the anthers dehisce with one tangential slit, a character which is otherwise not found in the Polygalaceae.

On the structure of the pollen we have a report by Dr. G. Erdtman, Director of the Palynological Laboratory at Stockholm, to whom we sent some material and who, in 1944, examined the pollen of *Diclidanthera*. He pointed out that the pollen closely resembled that of *Xanthophyllum*, *Salomonina*, and *Polygala*. We investigated the pollen grains of *Barnhartia floribunda* Gleason, and as our drawing shows, it is closely related to *Diclidanthera* and to *Eriandra*. The pollen grains of *Eriandra fragrans* are slightly constricted at their equator, and in the opinion of Dr. Erdtman this character may be seen as an evidence in favour of the distinction of a new polygalaceous genus. His pollen diagnosis, which he kindly put at our disposal, runs: "pollen grains 8-9-colporate (zonate), prolate spheroidal (30 x 28 $\mu$ ) slightly constricted at their equator. Sexine probably thicker than nexine; OL pattern (faint; can be seen at least near the equator)."

The ovary of *Eriandra* is 7- or 8-celled, that of *Diclidanthera* 5-celled (fruit 5-7(!)-celled), *Moutabea* 4- or 5-celled (fruit 2-5-celled), and that of *Barnhartia* 2- or 3-celled. In all cases the cells contain one pendulous ovule.

The styles are densely pubescent in *Eriandra*, *Barnhartia*, and *Diclidanthera*, but glabrous in *Moutabea*.

The stigmas are capitate, papillate in *Eriandra*, *Diclidanthera*, and *Barnhartia*, but subquinelobate to bilabiate and slightly infundibuliform in *Moutabea*, as is clearly shown in Miquel's drawing in the *Flora Brasiliensis* 7: pl. 5, f. 13 and 14. The authors found a bilabiate stigma.

According to Chodat (1897) and Oort (1932) a disk seems to be present in *Moutabea*. However, neither in Aublet's description (1775)



nor in the one given by Miquel (1856) is there a disk represented. We could not find the slightest indication of this character.

Considering the details given above, the proper place of *Eriandra* is in the Polygalaceae in the affinity of *Barnhartia*, *Moutabea*, and *Diclidanthera*, to the last of which it is most closely related. The four genera are best placed together in the tribe Moutabeae. Arranged according to affinity with the tribe Polygaleae *Barnhartia* seems to come first, followed by *Moutabea*, whilst *Eriandra* and *Diclidanthera* show the least relationship. The four genera form a series of genera running from zygomorphic to actinomorphic and from choripetalous to gamopetalous flowers. Related to this last character is the uniting of the stamens, which are free in *Barnhartia* and form a staminal tube in *Diclidanthera* and *Eriandra*. *Moutabea* forms an intermediate stage, as the eight stamens are united into two bundles, though still in one tube which is open at the dorsal side.

As the characters of the Moutabeae given by Chodat (1897) have to be emendated to include the four genera, we propose to give the following definition of this tribe:

#### Tribe **Moutabeae**

Calyx and corolla united at the base on a torus. Calyx united. Corolla free, cohering or united, quincuncial in bud. Stamens 7, 8 or 10, united into a tube or free and inserted on the free petals, sometimes in two bundles. Anthers dehiscing with one tangential slit. Carpels 2-8, united, with one ovule in each cell. Trees or shrubs with entire, spirally arranged leaves.

Four genera with ten species, in South America and New Guinea.

#### KEY TO THE GENERA

1. Stamens 8 or 10, connate in a tube.
  2. Calyx 5-merous, quincuncial in bud. Anthers glabrous. Ovary 5-celled. Base of bracts and base of leaf-margin provided with a gland . . . . . *Diclidanthera* Martius.
  2. Calyx 4-merous, decussate or 5-merous, quincuncial. Anthers densely pubescent. Ovary 7- or 8-celled. Glandless . . . . . *Eriandra* nov. gen.
1. Stamens 7 or 8, either in 2 bundles or not connate in a tube.
  3. Flowers markedly zygomorphic. Corolla tubular, splitting at the dorsal side. Upper 2 stamens absent, the others in two bundles of 4. Anthers transversely ellipsoidal. Ovary 4- or 5- celled, style glabrous, stigma sub-5-lobed and subinfundibuliform or bilabiate. Leaf-blade and petiole glandless . . . . . *Moutabea* Aublet.
  3. Flowers subzygomorphic. Petals connivent, not united. Stamens inserted on the petals, not united into a tube. Anthers longitudinally ellipsoidal. Ovary 2- or 3-celled, style densely pubescent, stigma discoid-capitate. Apex of the petiole with a gland on either side. . . . . *Barnhartia* Gleason.



**Eriandra** gen. nov.

Arbor parva, foliis spiraliter ordinatis petiolatis integris; racemis axillaribus parvis paucifloris; floribus epigynis actinomorphis subzygomorphisve; sepalis 4 vel 5 decussatis vel quincuncialibus, basi connatis; petalis 4 vel 5 pro  $3/4$  longitudinis connatis in tubum calyci adnatum, apice tantum liberis; partibus liberis decussatis vel imbricatis orbicularibus; staminibus 8 vel 10 coalitis in tubum corollae adnatum, nunc uno latere paululo exsculptum; antheris transverse ellipsoideis, fissura communi transversa dehiscentibus; valvis 2, dense longeque pilosis; pollinis granulis in 8-vel 9-colporatis; ovario globoso glabro, 7-vel 8-loculari; loculis omnibus uniovulatis; stylo dense piloso; stigmate discoideo-capitato, papillato; fructu adhuc ignoto.

TYPUS: *E. fragrans*.

**Eriandra fragrans** sp. nov.

Arbor parva corona umbrosa instructa; trunco irregulariter et profunde sulcato (truncum spurium Ficorum epiphyticarum nonnullarum in mentem revocante): ramulis glabris; internodiis 0.5–2.5 cm. longis; foliis ellipticis oblongisve basi anguste cuneatis apice acutis 15–20 cm. longis 5–7 cm. latis coriaceis, utraque facie subnitentibus et glabris sed in facie inferiore costae mediae interdum pilis paucis raris conspersis; costa media subtus prominente, in facie superiore basi subcanaliculata, apice prominente; nervis lateralibus utroque latere costae mediae 12–16, subtus distincte prominentibus, supra prominulis; margine revoluta; petiolo supra applanato, parte inferiore rugoso, 1–2.5 cm. longo; floribus albis fragrantibus; racemis circ. 1 cm. longis; pedunculo communi breviter piloso, circ. 6 mm. longo; bracteis bracteolisque cymbiformibus obtusis; bracteis dense pilosis circ. 1 mm. longis; bracteolis subglabris circ. 0.5 mm. longis pedicellis 1–5 mm. longis, glabris; sepalis spathulatis obovatisve, 4–5.5 mm. longis, utrimque glabris, exterioribus margine toto, inferioribus parte apicali tantum fimbriatis; partibus petalorum liberis circ. 3 mm. longis, praeter margines fimbriatos glabris, in sicco rubiginosis; tubi staminei membranacei parte libera extus glabra, intus pilosa; antheris circ. 0.8 mm. latis; pollinis granulis plus minusve  $30\mu$  longis, ca.  $28\mu$  crassis; ovario plus minusve 2 mm. diametiente; stylo 3–4 mm. longo.

TYPE: *L. J. Brass 7767* in L, duplicate in A.

PAPUA: Western Division, Lake Daviumbu, Middle Fly River, rain forest, *Brass 7767* (TYPE in L; duplicate in A), Sept. 1936 (common small canopy tree; whole length of trunk deeply indented and flanged, like some strangling figs. Flowers white, fragrant).

NETHERLANDS NEW GUINEA: Mt. Arfak, Putat, *Beccari 9928* (in herb. Firenze), anno 1872 (loose flowers).

The name *Eriandra* is chosen on account of the pubescent anthers, while the specific epithet is used because of the fragrant flowers.



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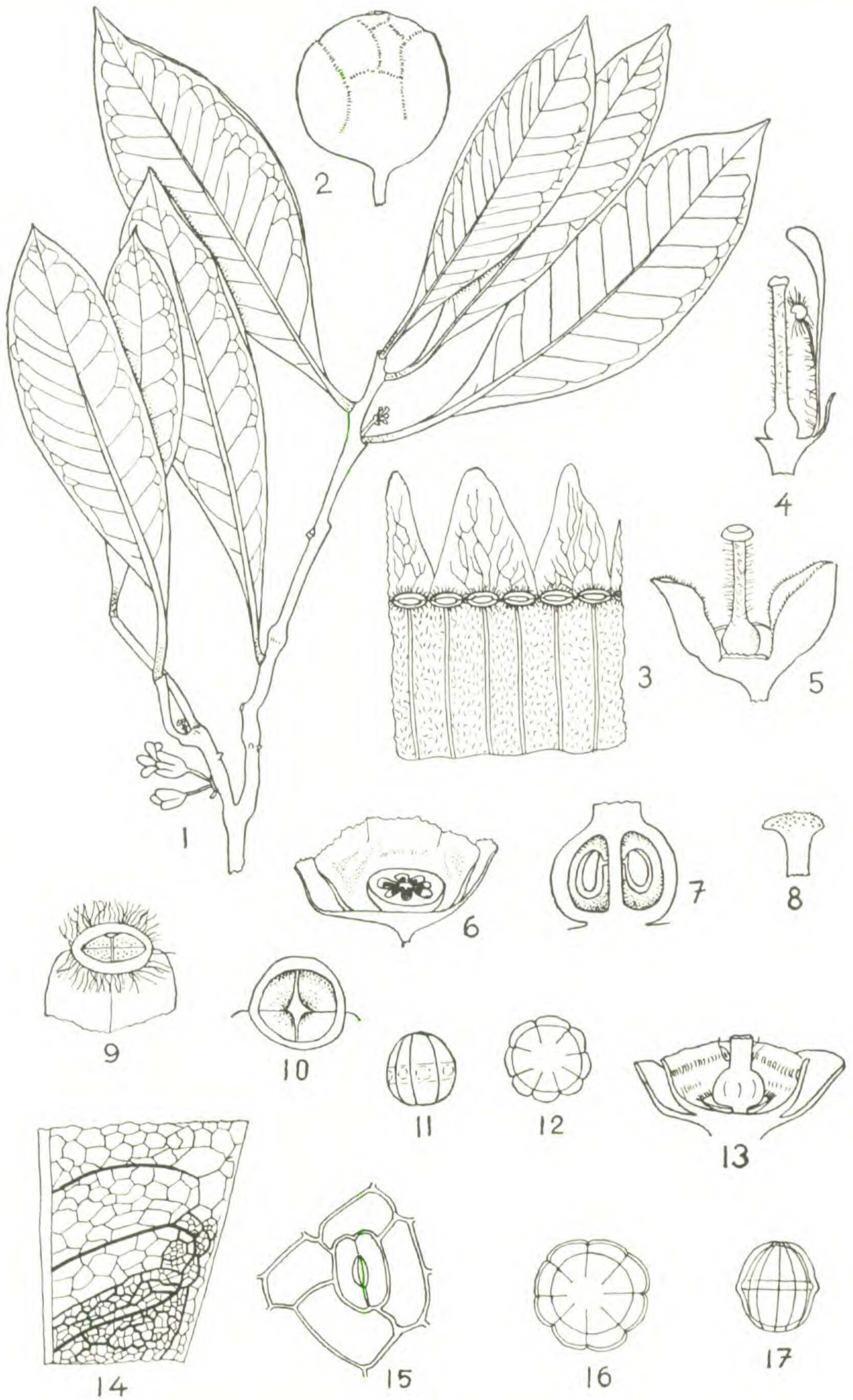
## EXPLANATION OF PLATE

## PLATE I

*Eriandra fragrans* Van Royen & Van Steenis (*Brass* 7767): 1. habit,  $\times 1/3$ ; 2. bud; 3. part of corolla from inner side, flattened; 4. longitudinal section of flower (schematic); 5. flower with 2 sepals, corolla and androecium removed; 6. base of flower with cross-section of ovary; 7. longitudinal section of ovary; 8. stigma; 9. anther; 10. ditto, showing the vertical septum; 11-12. pollen grains; 13. basal part of flower in section; 14. detail of leaf-nervation, underside; 15. stomatal apparatus. *Barnhartia floribunda* Gleason: 16-17. pollen grains. Except in fig. 1 all details enlarged.

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